

Translation

PATENT COOPERATION TREATY

PCT/EP2003/014873



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000054218	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/014873	International filing date (day/month/year) 24 December 2003 (24.12.2003)	Priority date (day/month/year) 07 January 2003 (07.01.2003)
International Patent Classification (IPC) or national classification and IPC C08F 257/02, 236/04, 212/08		
Applicant BASF AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 19 June 2004 (19.06.2004)	Date of completion of this report 06 April 2005 (06.04.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/014873

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☒ the description:

pages 1-11, as originally filed

pages, filed with the demand

pages, filed with the letter of

☒ the claims:

pages 1-8, as originally filed

pages, as amended (together with any statement under Article 19

pages, filed with the demand

pages, filed with the letter of

☐ the drawings:

pages, as originally filed

pages, filed with the demand

pages, filed with the letter of

☐ the sequence listing part of the description:

pages, as originally filed

pages, filed with the demand

pages, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/fig5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/14873

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-8	YES
	Claims		NO
Inventive step (IS)	Claims	1-8	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO

2. Citations and explanations

Novelty (PCT Article 33(2))

EP-A-0 819 708 (US-A-5 910 534) discloses a method for producing aqueous copolymer dispersions by radically initiated aqueous emulsion polymerisation in which 1 to 50% of the ethylenically unsaturated carboxylic acids and/or dicarboxylic acids are neutralised during polymerisation by the addition of bases. The method as per the present claims 1-8 is novel, since the partial neutralisation of the (di)carboxylic acid occurs prior to the polymerisation.

US-A-3 875 101 describes a copolymer latex obtainable by radically initiated emulsion polymerisation of a monomer mixture containing butadiene, styrene and acrylic acid. Part of the emulsifier is present with the monomers, the rest is added during the polymerisation. The neutralisation of the carboxylic acid group occurs after the polymerisation is finished. There is no mention of neutralising 1 to 50% of the carboxylic acid groups prior to the polymerisation.

US-A-6 365 647 discloses a polymer latex obtainable by radically initiated emulsion polymerisation of a monomer

mixture comprising styrene, butadiene and the salt of the 2-acrylamido-2-methylpropane sulfonic acid (AMPS). US-A-6 365 647 mentions neither the specific addition profile of the emulsifier, nor a copolymer containing a neutralised (di)carboxylic acid.

GB-A-1 498 128 describes a method for reducing the coagulation point of a latex which contains polymerised units of butadiene, styrene and acrylic acid as components and in which only biodegradable emulsifiers are used (e.g. Na-paraffin sulfonate; ethoxylated cetylalcohol) (page 2, lines 36-56; page 4, lines 7-40).

Inventive step (PCT Article 33(3))

None of the international search report citations suggests carrying out the partial neutralisation of the (di)carboxylic acid prior to the emulsion polymerisation so as to provide aqueous copolymer dispersions having a lower coagulate content.

An inventive step is therefore involved (PCT Article 33(3)).

Industrial applicability (PCT Article 33(4))

The method as per claims 1-8 is industrially applicable.